AMSAT
Radio Amateur Satellite Corporation
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AMSAT-PHASE III

AMSAT-Phase III is a revolutionary new series of amateur radio communications satellites designed for long-lifetime operation in high-altitude synchronous, circular or elliptical orbits. Phase I of the amateur satellite program was represented by OSCAR's 1 through 5. These were short-lifetime satellites which served to familiarize radio amateurs with satellite tracking techniques. The AMSAT-OSCAR-B series (Phase II) include OSCAR 6 and 7, still in operation. They mark the development, for the first time, of long-life satellites for two-way amateur radio communications and experimentation. Phase II spacecraft have been designed for fairly low orbital altitudes, below 1,000 miles. These satellites have been used by amateurs in over 100 countries to make hundreds of thousands of contacts. Communication distances have been limited, because of the low altitude, to 5,000 miles and to communications periods of 25 minutes at a time.

The new Phase III spacecraft, now being developed, will introduce spectacular new capabilities in amateur satellite communications. In the area of public service, Phase III satellite transponders (repeaters which retransmit received messages back to earth) will permit:

- Dramatically expanded emergency communications, of vital importance in disaster relief.
- Transmission of educational material directly to school rooms, requiring minimal receiving equipment.
- New means of low-cost experimentation in satellite techniques, available to all countries alike. There would be no user charges.

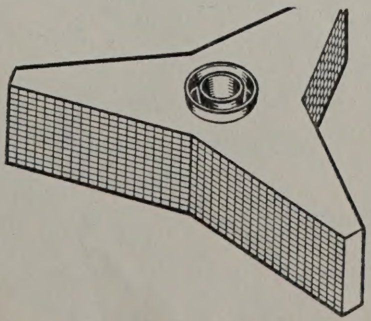
To the radio amateur, Phase III will provide:

- New amateur bands equal in operation to the 20-meter band, yet far more reliable and predictable for two-way communications.
- A means of communicating over transcontinental distances for many hours at a time using small amateur terminals and antennas.
- A highly effective means for transmitting amateur bulletins and training material throughout entire continents.
- Far more efficient use of the VHF and UHF amateur bands, particularly for long-distance communications applications.

The Phase III spacecraft will exceed all the other previous OSCAR's combined in operational capability and technical sophistication. Two satellite transponders are under development, a 145.9 MHz input, 435 MHz output unit and a 435 MHz input, 145.9 MHz output system. Both will be capable of 50 watts power in linear, multiple-access operation to serve hundreds of users simultaneously. Only simple, off-the-shelf equipment will be required. The spacecraft's effective radiated power is expected to be 500-1,000 watts, achieved in part through use of directive antennas on the satellite. Compare this to OSCAR 6 which develops less than two watts and OSCAR 7, with less than 10 watts.

An onboard microcomputer is expected to greatly enhance the operational flexibility of AMSAT-Phase III. The computer will control housekeeping functions, experiment scheduling, telemetry and telecommand data-handling.

AMSAT-Phase III -- a significant new step forward for the world's growing population of radio amateurs, significant gains in public service -- and most worthwhile new horizons.



ARTIST'S IMPRESSION OF
THE PHASE III SATELLITE